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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,750	03/05/2002	Louis B. Rosenberg	IMMR-014/02US	8227

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EXAMINER

NGUYEN, KEVIN M

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/091,750

Applicant(s)

ROSENBERG, LOUIS B.

Examiner

Kevin M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/03/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is made in response to applicant's amendment filed on 06/13/2005. Claims 1-37 are cancelled, claims 38, 42, 49, 53, 55 and 56 are amended, and claims 38-57 are currently pending in the application. Applicant's amendment with respect to the claims 38, 42, 49, 53, 55 and 56 necessitated the new grounds of rejection presented in this Office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 38, 39, 43, 47-49 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (previously cited, JP 08-324194) in view of Taniishi et al (newly cited, US 5,177,472):

3. As to claim 38, Sasaki teaches a vibrating pen comprising:

- a. A pen (a stylus, see drawing 1), a work piece 9 (a surface, see drawing 1), a hand of a user (inherent);
- b. A position sensor 11 (a sensor, see drawing 1), a control section 27 (a host computer), the work piece 9 (the surface, see drawing 1). The operation of this for more detail see paragraph [0037];
- c. A magnetic substances (17, 20) and a coil 21 define an actuator (see drawing 1, page 1). The drawing 1 shows the magnetic substances (17, 20) and

the coil 21 is provided on the inner peripheral (see constitution, lines 7-10). The position sensor 11 and the feedback signal Sf (see page 4, paragraphs [0028] and [0029]) define a haptic feedback as claimed.

Accordingly, Sasaki teaches all the subject matter claimed except for the use of the work piece (9) instead of a coordinates (x, y) of the position P of the vibrating input pen (3) against a vibration transmitting plate (8).

However, Taniishi et al teach a related vibrating pen comprising the vibration is transformed into electrical signals by the three vibration sensors 6. Respective outputs from the three vibration sensors 6 are input to a vibration waveform detection circuit 9 (fig. 2, col. 4, lines 28-31), and detect the coordinates of the vibrating input pen 3 on the vibration transmitting plate 8 according to the transmission times (col. 4, lines 35-37). The microcomputer 11 (fig. 3) is synchronizing with a circuit for coordinate calculation (col. 4, line 56-58).

Therefore, it would have been obvious to one of ordinary skill in the art to replace the work piece (9) in Sasaki with the coordinates (x, y) of the position P of the pen (3) against the vibration transmitting plate (8), in view of the teaching in the Taniishi et al's reference, because this would provide a low-cost vibrating input pen for coordinate input capable of stably vibrating its points as taught by Taniishi et al (col. 2, lines 33-35).

Moreover, where the claimed differences involve substitution of interchangeable equivalents and the reason for the selection of one equivalent for another was not to solve an existent problem such substitution has been judicially determined to have been obvious. See In re Ruff, 118 USPQ 343 (CCPA 1958).

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4. As to claim 40, Sasaki teaches the magnetic substances (17, 20) and the coil 21 define an actuator (see drawing 1, page 1). Thus, when the vibrating pen is active, there will be the length of the vibrating pen which is changed.

5. As to claim 43, Sasaki teaches the coil 21, the magnetic substances 20 and 17 which define a voice coil.

6. As to claim 47, Sasaki teaches adjustable of the weight of a dead weight 19, the rate v , and the amplitude of the current I shown in (1) formula. When current $I+$ and current $I-$ in a coil 21 by turns, a shaft 18 repeats vibration with the fixed amplitude and oscillation frequency, this is followed, and a stylus 24 vibrates (see page 5, last paragraph [0034]). Thus, if the shaft 18 is at high height and high rate v , then the actuator configured to vibrate at a high frequency.

7. As to claim 48, Sasaki teaches a stylus 24 moves forward and the point 24a collides with the front face of a work piece 9 (see page 5, last paragraph [0034], lines 6-7). Thus, it is provided the sensor is disposed within a surface.

8. As to claims 49 and 55, Sasaki teaches a vibrating pen associated with a method, the vibrating pen comprising:

d. A pen (a stylus, see drawing 1);

e. While the shaft 18 is vibrating, a position sensor 11 detects the distance d of self and the end of a shaft 18, and outputs the location detecting signal Sp to CPU 28 through position-sensor interface 32 and bus B. Thereby, CPU 28 controls the oscillation frequency and the amplitude of a shaft 18 (see paragraph [0037]).

f. Adjustable of the weight of a dead weight 19, the rate V , and the amplitude of the current I shown in (1) formula. When current $I+$ and current $I-$ in a coil 21 by turns, a shaft 18 repeats vibration with the fixed amplitude and oscillation frequency, this is followed, and a stylus 24 vibrates (see page 5, last paragraph [0034]). Thus, if the shaft 18 is at high height and high rate v , then the actuator configured to vibrate at a high frequency.

Accordingly, Sasaki teaches all the subject matter claimed except for the use of the work piece (9) instead of a coordinates (x, y) of the position P of the vibrating input pen (3) against a vibration transmitting plate (8).

However, Taniishi et al teach a related vibrating pen comprising the vibration is transformed into electrical signals by the three vibration sensors 6. Respective outputs from the three vibration sensors 6 are input to a vibration waveform detection circuit 9 (fig. 2, col. 4, lines 28-31), and detect the coordinates of the vibrating input pen 3 on the vibration transmitting plate 8 according to the transmission times (col. 4, lines 35-37). The microcomputer 11 (fig. 3) is synchronizing with a circuit for coordinate calculation (col. 4, line 56-58).

Therefore, it would have been obvious to one of ordinary skill in the art to replace the work piece (9) in Sasaki with the coordinates (x, y) of the position P of the pen (3) against the vibration transmitting plate (8), in view of the teaching in the Taniishi et al's reference, because this would provide a low-cost vibrating input pen for coordinate input capable of stably vibrating its points as taught by Taniishi et al (col. 2, lines 33-35).

Moreover, where the claimed differences involve substitution of interchangeable equivalents and the reason for the selection of one equivalent for another was not to solve an existent problem such substitution has been judicially determined to have been obvious. See In re Ruff, 118 USPQ 343 (CCPA 1958).

As to claim 50, Sasaki teaches the adjustable of impulse force F_s (the modulated force) is performed when current I_+ and current I_- in a coil 21 by turns, a shaft 18 repeats vibration with the fixed amplitude and oscillation frequency, this is followed, and a stylus 24 vibrates (see page 5, last paragraph [0034]).

9. Claims 40, 41, 42, 44-46, 50-54, 56, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki in view of Taniishi et al, and further in view of Berkson et al (previously cited, US 5,627,348).

As to claims 40 and 41, the combination of Sasaki and Taniishi et al teaches all of the claimed limitations, except for a power source disposed within the stylus.

However, Berkson et al teaches a related electronic stylus which includes a battery 72 to drive electronic circuitry 74 (see figs. 12 and 13, col. 13, lines 39-43). Thus, the battery 72 disposed within the stylus.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Sasaki's and Taniishi et al's pen including the battery disposed within the stylus, in view of the teaching in the Berkson's reference, because this would provide power supply for the electronic stylus, a different embodiment might place part of the compliance in the stylus and part in the writing surface or an combination may be used as taught by Berkson et al (col. 11, lines 40-42).

As to claim 42 (currently revised), Sasaki teaches a shaft 18 repeats vibration with the fixed amplitude and oscillation frequency, this is followed, and a stylus 24 vibrates (see page 5, last paragraph [0034]), as modified by, Berkson et al teach to determine the static coefficient of friction, the peak force of pulling the sled was used (claimed, col. 10, lines 45-49). The static and the peak force, they are obvious to provide a constant force as claimed.

As to claim 44, Berkson et al teaches a rolling friction of ball 14 (see fig. 2, col. 4, line 58).

As to claim 45, Berkson et al teaches writing resistance, hand friction and surface warmth (see col. 5, lines 40-43).

As to claim 46, Sasaki teaches the output current I+ and current I- flow in the coil 21 which defined a solenoid (see paragraph [0034], line 2).

As to claim 50, Berkson et al teaches the use of a spring or biasing means for pressing against the non-marking ball 28 (col. 5, lines 18-19).

As to claim 51, Berkson et al teaches the force (N) versus the displacement (nm) of the pen (see fig. 11, col. 6, lines 53-56).

As to claims 52 and 56, Berkson et al teaches pen-like structure is held in the hand like a conventional physical writing instrument, and moved over a surface in a physical writing operation (col. 4, lines 15-17).

As to claim 53, Berkson et al teaches a ball 14 (a tip) projects for allowing contact with a writing surface (fig. 1, col. 4, lines 47-48).

As to claim 54, Sasaki teaches the output current I_+ and current I_- flow in the coil 21 which defined a solenoid (see paragraph [0034], line 2).

As to claim 57, Berkson et al teaches the use of a spring or biasing means for pressing against the non-marking ball 28 (col. 5, lines 18-19). Berkson et al further teaches the force (N) versus the displacement (nm) of the pen (see fig. 11, col. 6, lines 53-56).

Response to Arguments

10. Applicant's arguments filed 06/13/2005 have been fully considered but they are not persuasive. Applicant argues features in the independent claims 38, 42, 49 and 55 that are newly recited. Thus, new grounds of rejection have been used. See above rejections. For these reasons, the rejections based on Sasaki, Taniishi et al and Berkson et al have been maintained.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Nguyen whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 8:00-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the Patent Application Information Retrieval system, see <http://portal.uspto.gov/external/portal/pair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Nguyen
Patent Examiner
Art Unit 2674

KMN
August 11, 2005


PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER